Roll No.

Total No. of Questions : 09]

[Total No. of Pages : 02

B.Tech. (Sem. - 4th)
DATA COMMUNICATIONS
SUBJECT CODE : CS - 206
Paper ID : [A0460]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

1) Section - A is **Compulsory**.

2) Attempt any **Four** questions from Section - B.

3) Attempt any **Two** questions from Section - C.

Section - A

Q1)

$(10 \times 2 = 20)$

a) Explain as to how error detection at the data link level is achieved.

b) What is a subnet mask is used for?

c) What is the main use of DNS?

d) Which MAC layer protocol is used by 802.11 WLAN?

e) How is wired transmission different from wireless transmission?

f) Which fields in an IP header uniquely identifies a connection (when viewed from Network)?

g) Which layer provides End-to-end connectivity from host-to-host?

h) What is the difference between simplex & half duplex?

i) What is the difference between baseband and broad band cables?

j) IP defines how many bits for representing an IP and MAC address?

664

Section - B

(4 × 5 = 20)

Q2) How is shortest patch found by a static routing algorithm? Which metric is generally considered for deciding routing patch in case of most of the routing algorithms and why?

Q3) How is TCP and UDP different? Which protocol amongst two is more favorable for real time applications and why?

Q4) What are the various transmission media available? State advantages and disadvantages of each.

Q5) Explain different methods of error detection and error correction. Which method requires more number of bits and why?

Q6) Why is multiple access required in LAN technologies? Compare FDM, TDM and SDM in terms of their ability to handle groups of stations.

Section - C

(2 × 10 = 20)

Q7) If a size of a window is 3 bits, how many packets can be sent using Sliding Window protocol? Explain your answer. Explain the factors which will determine the length of the sliding window.

Q8) What are the various issues involved in IEEE 802.11 Wireless Networks? Why are they not so reliable networks?

Q9) Explain how the DNS allows a large number of DNS lookups to be processed. Which protocol is used by DNS on TCP/IP protocol stack and why?

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